Amendments to the Specification:

- Please replace paragraph **[0024]**, with the following amended paragraph.

[0024] Speech sounds, particularly vowel sounds, are often defined in terms of "formants", where there is a fundamental formant sound, F_0, and related formants, F_1, F_2, etc. Similar formant-like relationships exist that may be used to define various consonant sounds. Likewise, certain tone sequences may be readily known to particular ~~inviduals~~ individuals based on prior experiences.

- Please replace paragraph **[0025]**, with the following amended paragraph.

[0025] Any of the above-described speech sounds, or tone sequences, may be used with the present invention to help define the frequency mapping process used during the fitting process of a cochlear implant. For example, where vowel sounds are used, the fundamental formant F_0 is used as a reference signal, and the first formant F_1 is used as a probe signal. The F_0 formant is applied to a reference electrode and the F_1 formant is then applied to different electrodes that are a fixed and known physical distance from the reference electrode. As soon as the perceived sound is roughly correct as perceived by the ~~indivudal~~ individual, e.g, 80% correct, then the location at which the F_1 formant signal is applied is further fine tuned by using virtual electrodes. In other words, the physical electrode spacing may be used to provide a rough tuning of the desired frequency-location allocation, and then virtual electrodes may be used to provide a fine tuning of the desired frequency-location allocation.

- Please replace paragraph **[0051]**, with the following amended paragraph.

[0051] In contrast to prior art systems, a modern cochlear implant, such as the CII Cochlear implant system, [[ro]] or the HiRes90K implant system, manufactured by Advanced Bionics Corporation of Sylmar, California, advantageously puts at least a portion of the speech processor 16 within the implanted portion of the system. For example, a cochlear implant may place the Pulse Table 42 and arithmetic logic unit (ALU) 43 inside of the implanted portion, as indicated by the bracket labeled "Imp2" in FIG. 2B. Such partitioning of the speech processor

16 offers the advantage of reducing the data rate that must be passed from the external portion of the system to the implanted portion. That is, the data stream that must be passed to the implanted portion Imp2 comprises the signal stream at point (B). This signal is essentially the digitized equivalent of the modulation data associated with each of the *n* analysis channels, and (depending upon the number of analysis channels and the sampling rate associated with each) may be significantly lower than the data rate associated with the signal that passes through point (A). Hence, improved performance without sacrificing power consumption may be obtained with such a cochlear implant.